Management Research on Social Networking Sites: State of the Art and Further Avenues of Research

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Abstract: This study presents an analysis of the body of research on Social Networking Sites (SNS), in the context of management sciences from 2009 to 2014. This review identifies and analyzes 100 papers related to SNS. The purpose of this study is to clarify, in a first step, the term Social Networking Sites, and to present, in a second step, the main categories of current research themes in management sciences. To highlight topics on SNS, a content analysis was made using "NVivo 10" software. The unit of analysis was the paper summary. The 100 articles found are classified according to nine thematic categories: "SNS itself", "motivations of use", "human resources management", "knowledge management", "operational marketing", "consumer behavior", "performance", "leadership", and "innovation". The extensive review of the published SNS studies identifies 45 papers that used quantitative method. The survey was the most frequently used data-collection technique. The researchers examine SNS by referring to theories such as social networks theory, planned behavior theory, use and gratification theory, and adoption of innovation theory. Concerning geographic distribution, the majority of work focuses on the United States. The main contribution of this paper is to build a mapping of the SNS research, to offer a reliable, constructed, practical, and useful resource. This study summarizes the methodological preferences and thematic patterns of recent SNS research in management sciences, and concludes that the SNS domain is structured according to several coherent thematic areas, and has rich potential for future research. This review proposes to provide a source for anyone interested in discovering research trends in SNS literature.

Keywords: Social Networking Sites, Online Social Networking, Facebook, MySpace, Firm, Organization

1. Introduction

Since their creation, social networking sites (SNS) have received serious public attention, registering millions of users per day (Martins, et al., 2016). Recently, SNS such as Facebook and MySpace have become more widely known. In fact, their use was identified as one of the most popular social activities in the world (Hoadley, et al., 2010). The penetration of these platforms has extended into all geographical zones on all continents. SNS have the highest penetration rates in North America with 59%, and in Western Europe with 48%, compared with relatively low penetration rates of 11% in Africa and 11% in South Asia (Coëffé, 2016). In 2016, Facebook reported 1.8 billion monthly users. There are 342 million users in Europe, 229 million in North America, 629 million in Asia, and 587 million in the rest of the world (Coëffé, 2016). These few statistics show the importance of the SNS phenomenon, which represents an emerging research subject in various fields (e.g., sociology, psychology, communication, information technology, information systems, marketing, resources) (Girard and Fallery, 2009).

The goal of this article is to provide an overview of SNS research that contributes to a better understanding of this worldwide phenomenon. This study presents an analysis of SNS research in the context of management sciences over the six years from 2009 to 2014. It also aims to clarify the relatively new concept of SNS, whose definition is still under discussion in the literature. In this context, the authors address the following question: How is SNS research in management sciences structured? *More specifically, what are the themes in SNS research in management, methodological types and techniques used in these studies, theories used, and countries that have dominated the empirical studies on SNS research*? The main contribution of this paper is to inventory and organize research on SNS, a recent area that has attracted much attention from practitioners in the business world (Jones, et al., 2011; Heidemann, et al., 2012). These tools generate several uses for firms affecting marketing and sales, research and development, customer service (feedback, claims management), brand and reputation management, hiring and innovation (KPMG, 2011). This allows huge potential for further avenues for research. The state of the art proposed in this paper provides a useful analysis for future research. This research presents a thematic mapping of SNS literature in management sciences. It classifies research papers into 22 themes, and clarifies themes that have not yet been investigated. The first section of this study reviews the definitions of SNS. The second section provides an overview of existing states of research development in SNS (Kwak and Lee, 2011; Zhang and Leung, 2014; Ravasan, et al., 2014). The methodology is

presented in the third section. Finally, an overview of the results, as well as the limits and future research directions, are presented.

2. Review of definitions for Social Networking Sites

The extensive review of published SNS studies shows that the following terms are used to refer to SNS: Social Networking Sites, Online Social Network, Social Network Online Community, Social Networking Services, Social Networking Web Sites, and Digital Social Networking (Table 1). These terms for SNS are often used synonymously, even though they do not share a common definition (Heidemann, et al., 2012).

Table 1: Selected terms and definitions referring to Social Networking Sites

Term	Definition	Authors
Social Networking Sites (SNS)	Web services that allow individuals to: (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system	Boyd & Ellison (2007), Powell (2009), Kaplan & Heinlein (2010), Kwon & Wen (2010), Romero et al. (2011),Tejedo et al. (2012), Constantinides et al. (2013), Moqbel et al. (2013), Tripathy & kaur (2013), Ali-Hassan et al. (2015), Balasuriyal & Jayala (2015), Martins et al. (2016)
Online Social Network (ONS)	Online communities among people with common interest, activities, backgrounds and friendships. Most OSN are Web-based and allow users to upload profiles (text, images, and videos) and interact with others in numerous ways	Schneider et al. (2009), Lee & Chen (2011), Wickramasinghe & Nisaf (2012), Julia et al. (2012), Ollington et al. (2013), Dunbar et al. (2015), Ferrara et al. (2015), Andreassen (2016)
Social Network Online Community (SNOC)	A Social Network Online Community that encompasses a variety of representing the member's diverses personnal interests.Sub-groups are formed by people who have the desire and willingness to share their opinions and experience related to their specific interest of topics and activities	Park & Cho (2012)
Social Networking Services (SNs)	Social networking services gather information on users' social contacts,construct a large interconnected social network, and reveal to users how they are connected to others in the network	Heidemann et al. (2012), Dong et al. (2013), Jeng et al. (2015)
Social Networking web Sites (SNWS)	Online communities used to connect people who share the same interests and activities, or who are interested in exploring the interests and activities of others	Kluemper & Rosen (2009), Madera (2012), Nadeem et al. (2015), Mazur et al. (2016)
Digital Social Networking (DGS)	Web services that allow individuals to: (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the systemand (4) base their attractiveness essentially on the first three points and not on a particular activity	Girard & Fallery (2009), Stenger et al. (2010)

This table summarizes selected terms and corresponding definitions. These definitions deal with several common aspects. SNS are an online service, they represent communities, and they deal with a connection between those who want to connect and those having a common interest.

According to Zhang and Leung (2014), many studies use terms such as service or site similarly to designate the SNS. Some authors such as Schneider, et al. (2009), Kluemper and Rosen (2009), and Park and Cho (2012) associate SNS with communities. However, according to Stenger, et al. (2010), the undifferentiated use of social network and communities is problematic. The combination of the two terms network communities is even used. These authors consider that social networking sites constitute a breeding ground on which communities can appear, but without confusing them. Boyd and Ellison (2007) agreed with this idea of distinction. They developed a definition that has been widely adopted in many subsequent studies (Table 1). These authors have underlined a difference between the two concepts of Social Networking Sites and Social Network Site. The term Social Networking Sites refers to a particular type of site, differentiated from other types in which individuals concerned consider networking as the primary preoccupation. These sites assume the initiation of relations between strangers. In Social Networking Sites, the main intention is to create, develop, and maintain network contacts in the workplace (Stenger, et al., 2010).

Among Social Network Sites, networking is not the main practice that differentiates it from other forms of communication. Thus, individuals can become involved in other activities (Beer, 2008). They do not necessarily

want to meet new people. Consequently, they communicate, only, with people who are part of their friends list (Boyd and Ellison, 2007). Moreover, two main aspects emerge from SNS definitions: social and technological aspects.

From a social point of view, people use SNS to build social networks or social relations by sending comments and sharing opinions, experiences, and knowledge with others. These platforms encourage the collaboration of users around a common interest (Girard and Fallery, 2009).

From the technological point of view, SNS are defined as a set of interconnected equipment, which serves to convey an information flow. The computer network of the firm that enables users to connect at a distance ensures the shared information (Torloting, 2006).

As the definition proposed by Boyd and Ellison (2007) highlights the technical characteristics of these sites (Stenger, et al., 2010), Beer (2008) and Stenger, et al. (2010) determine a fourth property. They consider it to be fundamental because it distinguishes SNS from social computation sites by differentiating the uses and practices of each one of them. Stenger, et al. (2010, pp. 221) state that SNS are "web services that allow individuals to: (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, (3) view and traverse their list of connections and those made by others within the system, and (4) base their attractiveness essentially on the first three points and not on a particular activity".

Therefore, this definition shows the social and technical sides of SNS. These authors use "socio-numerical networks" to support the dual characteristic.

3.   Literature review: state of the art of SNS research

SNS is a new phenomenon that has not yet been adequately studied (North, 2010). A review of the literature revealed that few articles illustrate the state of the art of Social Networking Sites research. Only the works of Kwak and Lee (2011), Ravasan, et al. (2014), and Zhang and Leung (2014) were found as literature reviews that report on the current development of research in the field, and provide an analysis of past and recent trends.
Kwak and Lee (2011) focus on a chronological evolution of the research themes from the New Media Evolutionary Model (NMEM) initiated by Wimmer and Dominick (2000). The NMEM was initially designed to trace the evolution of social media research themes. Kwak and Lee (2011) attempt to apply this model to the SNS area to identify future research directions. The NMEM divides SNS research into four phases: SNS itself, uses and users of SNS, effects of SNS, and SNS improvements. Kwak and Lee (2011) focus on the impact of SNS on marketing aspects. In addition, they identify two theories that have been applied in SNS research: the uses and gratification (U & G) theory, and the social capital theory. Uses and Gratifications theory aims to understand how, why, and with what purpose people use the media in their everyday lives (Weiyan, 2015). According to Katz, et al. (1974), U & G theory states that people are active users of media in order to satisfy their specific needs and entertain themselves (Egede, et al., 2013). Social capital theory emphasizes the value of social network relations to obtain high collective efficacy and enhance access to information, human, and material resources (Ferguson and Mindel, 2007).

Kwak and Lee (2011) deal exclusively with marketing and information systems. They focus mostly on the effects of SNS on privacy, society, and education. In fact, they have extended their examination to many disciplines, such as sociology and psychology. Similarly, their review is not systematic, because the number of articles found is not specified. This last is one of the important criteria for a systematic analysis (Paré, 2014). Ravasan, et al. (2014) and Zhang and Leung (2014) are more rigorous on the methodological aspects.

Ravasan et al. (2014) deal with different areas of social sciences, such as sociology, education, commerce, management, marketing, and information systems. They identify 132 papers and distribute them according to the following classification criteria: publication's year, paper's keywords, publisher's name, journal's name, geographic region of conducted studies, author's name, and research categories. According to Ravasan, et al. (2014), Science Direct was the most commonly used database, followed by Springer and Emerald. The United States was the leader in terms of number of publications, followed by the United Kingdom and China.

Ravasan et al. (2014) studied different fields and found that the authors of the identified papers used the keywords Web 2.0, virtual communities, social media, social networking, online social networking, social networking sites, identity, privacy, public relations education, marketing, and culture. However, keywords mentioned in the analyzed papers are insufficient to reflect the relevant themes. In addition, these authors collected papers focusing on Web 2.0 and social media. Certainly SNS belong to Web 2.0 and social media; nevertheless, related research is broader (Girard and Fallery, 2009). Also, Ravasan, et al. (2014) did not determine the themes of the research article studied. However, Zhang and Leung (2014) present a study that not only details various aspects of research, but also identifies the themes related to SNS research.

Zhang and Leung (2014) provide a descriptive analysis by classifying papers according to the following criteria: type of SNS used, characteristics of the population (e.g., students, young people, adults), region of sample, and method/techniques employed. Their results focused on two specific types of SNS (Facebook and MySpace). The pioneer for SNS studies was the United States. Mainly, the studies used quantitative method. Finally, the survey was the major tool for data collection. Zhang and Leung (2014) conduct a review with a purely descriptive presentation of statistical data on selected criteria for classifying the identified articles. They focus on the individual and social SNS dimension (e.g., friendship, private life).

As the literature reviews by Ravasan, et al. (2014), Zhang and Leung (2014), and Kwak and Lee (2011) lack specificity to the management-sciences field, the current research is characterized by its specificity to management sciences. This review of the state of the art scans various aspects of analysis: types of studies, analytical methods, main theories, and geographic region of conducted studies. Detailed in the following section, the methodology was based on state-of-the-art best practices.

4. Methodology of the review

In order to capture the methodological aspects required for systematic research, the current study started with a review of three studies that examined the SNS field (Kwak and Lee, 2011; Ravasan, et al., 2014; Zhang and Leung, 2014). Then, other states of the art were selected from other fields, such as entrepreneurship and marketing (Kim and Weaver, 2000; Servantie, 2007; Xheneti and Blackburn, 2010; Cai, et al., 2011; Ilhan-Nas, et al., 2011; Jones, et al., 2011; Line and Runyan, 2011; Reuber and Fischer, 2011; Pomirleanu, et al., 2013; Mainela, et al., 2014). For both types of articles (i.e., from the SNS field or other fields), researchers proceed methodologically the same. Based on these state-of-the-art best practices, the methodological protocol for the search, selection, and exclusion of papers and the thematic analysis is described below.

A systematic review of the literature was conducted to ensure the reproducibility of the research. Books, book chapters, reports, and conference papers are not included in this study, because they are not systematically subject to a regular examination process, and their availability is not always guaranteed (Jones, et al., 2011; Mainela, et al., 2014; Ravasan, et al., 2014). The keywords employed by Kwak and Lee (2011) were considered to conduct a search of papers: Social Network (ing) Service, Social Network Sites, Online Social Networking, Facebook, and MySpace, with the two terms "firm" and "organization" added to ensure that the collected papers are part of management sciences. Management is a multidisciplinary field and can include accounting, finance, marketing, human resources, and strategy (Robert, 2009). In the literature, different sources are used to collect papers. In fact, papers are gathered from search engines such as Google Scholar, online databases, and/or a predefined list of journals. Research for this study was conducted through Google Scholar, Science Direct, Emerald, EBSCOhost, JSTOR, and Elsevier (Kim and Weaver, 2002; Servantie, 2007; Kwak and Lee, 2011; Ilhan-Nas, et al., 2011; Line and Runyan, 2011). We chose not to restrict it to a list of journals, in order to extend the scope of the database. Articles from Sage Journals are also included because they have an important significance in management sciences (Reuber and Fischer, 2011). Processing summaries, keywords, and titles yielded 117 articles (Pomirleanu, et al., 2013). Each summary was evaluated to determine whether it was related to the SNS area. Seventeen papers studying Web 2.0 in general, or dealing only with social media or virtual communities, were excluded from the database. The final sample includes 100 articles published between 2009 and 2014. The analysis begins in 2009 because this year is characterized by a notable increase in SNS research (Ravasan, et al., 2014).

To highlight the themes related to SNS research, a content analysis was made, using NVivo 10 software. The paper summary is defined as the unit of analysis. Each paper was coded according to publication year, research themes, main theories, research geographic focus, and data-collection methods.

The identification of themes was conducted on two bases. First, themes were derived from the state of the art study of the SNS literature (such as Kwak and Lee, 2011). Four major research axes were defined in accordance with the four phases identified by Kwak and Lee (2011). Second, the subthemes emanating from these four main axes were defined inductively after having consulted papers. The classification of subthemes was extracted from the basic works relating to each thematic area.

The 100 articles were digitized and each abstract was classified, according to nine categories of subthemes emanating from these four main axes: SNS itself, motivations of use, human resources management, knowledge management, operational marketing, consumer behavior, performance, leadership, and innovation. The nomenclature of subthemes is defined as follows: When a new theme emerged, its relevant literature was consulted to draw a justified typology. For example, the marketing domain papers dealt with the two P's of marketing: product and promotion. Consequently, the marketing domain was associated with the operational marketing category because, by definition, that category includes the marketing-mix actions, ensuring the combination of product, price, place, and promotion (Goi, 2009).

The assignment of papers to themes had to be checked. A statistical analysis was used to calculate the citation frequency of the theme in which each paper had been classified. This frequency can reach 11 occurrences. However, there can be hesitation between two themes when affecting papers. In that case, frequencies of the two themes were compared to find out which was dominant. In addition, a second check was conducted. The entire article was read to appreciate the leading theme.

5. Results of the review

This section presents the distribution of 100 articles according to the following criteria: themes, method used, geographic region, and main theories.

5.1 Themes

The 100 selected articles reflect the four research axes: SNS itself, SNS uses, SNS effects, and improvement of SNS. The research adopts the same logic as Kwak and Lee (2011), grouping specific theme categories into the four research phases originally suggested by Wimmer and Dominick (2000) (Kim and Weaver, 2002). However, we choose to replace the term "phases" by "axes" to avoid the process logic associated with a chronological evolution of social media themes, adopted in the model of Wimmer and Dominick (2000).

The research axes of SNS and the subthemes are illustrated in a thematic map constructed using Free Mind Map software. The main branches extending from the center of the map represent SNS research axes. The ramifications expanding from the axes present the third-order thematic domains which represent an aggregated definition of the second-order thematic groupings, and then the first-order themes.

The map also indicates the number of articles per first-order theme. These are aggregated at each higher level, leading to the final total of articles reviewed (Jones, et al., 2011).
The thematic map (Figure 1) illustrates the tree structure of themes. It also provides a visual aid to the structure and sequence of results discussion in this section (Jones, et al., 2011).

Logically, the similar node cannot be found simultaneously in the position of parent node and child node. However, some exceptions were made for schematic clarity. For example, the theme "communication" is repeated twice because its attached papers approach it in a general way, without focusing on a particular communication tool (e.g., advertising, sales promotion, sales force, direct marketing). Since the articles should be classified only in the first-order themes, the solution of reproducing a parent node into a child node, inspired by the Jones, et al. (2011) literature review, was adopted.
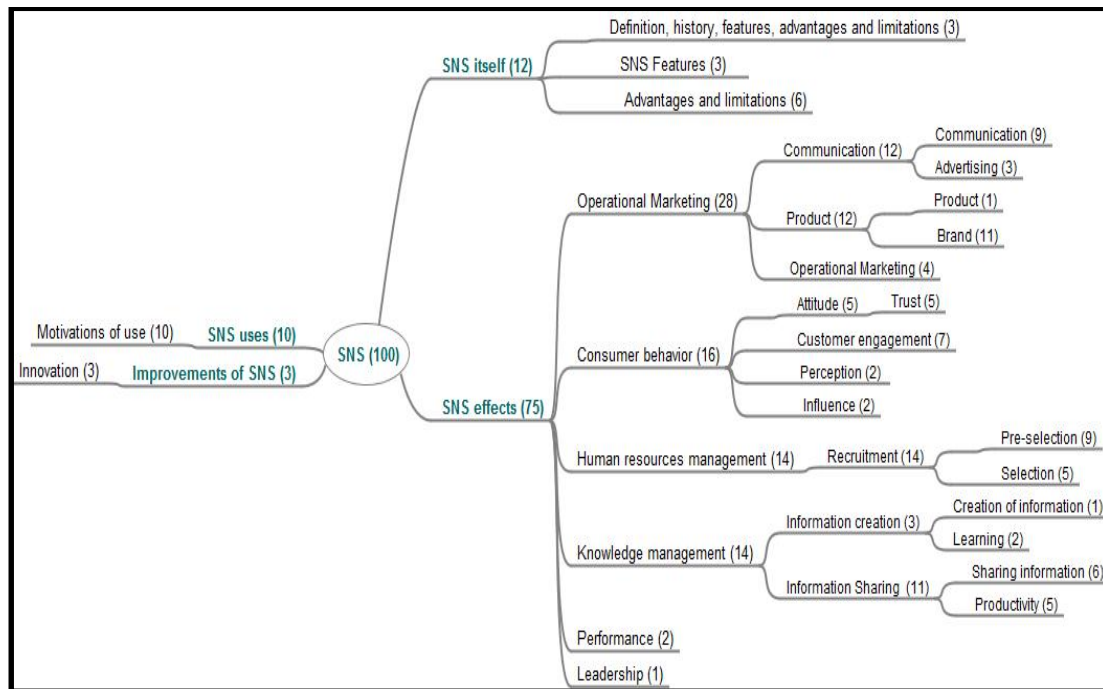
Figure 1: Thematic map of the SNS field: 2009-2014

The first axis is named **"SNS itself"** and involves three thematic areas. Twelve papers were identified and attached to this axis. A first theme, labeled "Definition, history, features, benefits and limits," includes three research papers. For example, Heidemann, et al. (2012) paid the same attention to developing definition, history, features, benefits, and limits of SNS. The second theme is labeled "SNS features "and covers three papers. Kim, et al. (2013) specified that research in this theme studies firms that adopt SNS in different ways, depending on the characteristics and goals provided by each SNS. Moreover, the company chooses Twitter to get information and opts for Facebook to interact with the public. Finally, the last research theme focuses on "benefits and limits of SNS." It refers to six papers, such as the study of Sophia and Zyl (2009). These authors found that social networking platforms can increase workflow efficiency, staff motivation, and innovation. However, they can lead to a potential loss of confidential information and decrease employee productivity.

The second axis is labeled **"SNS uses"** and focuses on motivations to use SNS. Ten papers explaining the motivations that prompted the users (firm and customers) toward SNS adoption were found. According to Martins and Patricio (2013), users join SNS to share information or develop relationships, or for hedonistic reasons.

Another dominant axis involves **"SNS Effects"**. Studies in this theme include 75 papers that discuss SNS impact on the firm. Six themes emerged on this research axis. First, 28 papers dealing with "operational marketing" have been categorized into two themes, namely "communication" and "product". The "communication" theme covers 12 papers, three of which particularly refer to the first-order theme of "advertising". El-Haddadeh, et al. (2012) found that Facebook has a significant impact on the advertising strategy of the Chinese organization. In addition, nine studies were assigned to "communication" itself. In this first-order theme, although the authors show the importance of these web tools, they did not specify the communication tool used (e.g., direct marketing, sales promotion, sales force). Another perspective supports the idea that SNS have an impact on the "product," especially on the "brand". In 11 papers, the authors expose the positive role of SNS in the development of brand management.

Second, a thematic grouping named "consumer behavior" was identified for 16 papers. It focuses on the following themes: "attitude", "customer engagement," "perception", and "influence". The first-order theme affiliated with "attitude" is labeled "trust." It reflects the arguments that consumers make for purchasing decisions, based on families' and friends' advice coming from the social networking platforms. The second theme, "customer engagement," contains seven papers. It aims to explain the level of engagement with SNS. For example, in their study, Men and Tsai (2012) demonstrated that Chinese users have an average level of engagement with corporate pages on SNS. Concerning the "perception" theme, two papers explain the

consumer's feelings regarding product aspects. For example, Xu et al. (2013) focus on the various reviews posted by SNS users concerning the offered product. The final theme for this axis is named "influence", and includes two studies. For example, Xu, et al. (2012) show that consumers are influenced by comments posted on SNS.

Third, the thematic domain of "human resources management" explores the role of SNS in the hiring process. In this context, organizations use Facebook pages as a hiring tool (Smith and Kiddern, 2010). Fourteen papers focus on two first-order themes: "pre-selection" and "selection". The "pre-selection" theme covers nine studies. According to Tripathy and Kaur (2013), the posted information on these sites (photos, political interests, age, religion, and gender) is generally not available in curriculum vitae. For that reason, SNS are considered an inexpensive source of information that requires less time for information control. Concerning the second theme of "selection", five papers study the effectiveness of SNS in the candidates' selection.

Fourth, "knowledge management" is another thematic area covering 14 studies. Reviewed articles are classified into two themes: "information creation " and "information sharing". The first theme, "information creation," includes three papers. One first-order theme designed by "learning" emerged, and studies the association between learning and SNS (Kane et al., 2010). The second theme, "information sharing," corresponds to 11 papers. It was divided into two themes: "information sharing" (six papers) and "productivity" (five papers). In the latter, the authors have proved the existence of a significant relationship between the implementation of SNS in the company and the productivity of employees at work. According to Wickramasinghe and Nisaf (2012), online social networks have positive impacts on individual productivity at work. These platforms encourage collaborative work, and enhance and improve collective knowledge.

Fifth, only two studies deal with the **"performance"** theme, in which the authors demonstrate a significant relationship between SNS use in the company and employee performance (Gnyawali, et al., 2010; Paniagua and Sapena, 2014).

Sixth, a single paper focuses on the importance of SNS for "leadership". According to Korzynski (2013), online social networking platforms are more useful for the participatory and consultative leadership style than for the directive leadership style.

The last axis, ***"improvements of SNS",*** deals with the way new applications development can improve SNS. Since the SNS field is still in its early stages, research in this area is limited. Three papers have recently been suggested and were associated with the first-order theme "innovation". For example, Garrigos-Simon, et al. (2012) analyzed the importance of SNS in the new context characterized by technological revolution. They examined the effect of Web 3.0 on organizations' management and marketing, and also the way companies can exploit these changes to improve their activities.

5.2   Method Used

Table 2 presents evidence on method types and techniques used for data collection in the papers studied.

According to the research design, papers were classified into conceptual studies and empirical ones. In general, SNS research is overwhelmingly empirical in nature. Conceptual research (24 studies) offered insights into important theoretical aspects of SNS research, but 76 empirical studies were identified. The researchers used quantitative, qualitative, mixed, or ethnographic methods. Overall, quantitative method was the predominant methodological preference for SNS studies. Forty-five papers used a quantitative method, while 25 papers employed pure qualitative methods, five papers mixed quantitative and qualitative methods for investigation, and one paper used an ethnographic method. Survey was the most frequently used technique (33 papers), followed by observation (11 papers) and interview (10 papers). Most of the reported studies tend to use quantitative methods. This choice can be explained by the researchers' willingness to keep seeking causal links and results generalization (Xheneti and Blackburn, 2010). This can be due to their desire to avoid qualitative methods, where objectivization and generalization are both impossible and undesirable (Karsent, 2011).

Table 2: Papers classification according to methods and techniques of data collection

Collection methods / collection techniques	Number of papers
Quantitative Method	45
Survey	33
Documentary Analysis	6
Secondary databases	6
Qualitative Method	25
Observation	11
Individual interviews	7
Group interviews	2
Individual interviews / Group interviews	1
Case studies	4
Mixed method (quantitative / qualitative)	5
Ethnographic method	1

5.3 Geographical Focus of Studies

Most of the papers concentrated on Asian countries (19 papers), especially on China (6 papers) and Taiwan (4 papers). Only one study was conducted in each of the following countries: Sri Lanka, Japan, India, Pakistan, Korea, Indonesia, Malaysia, Oman, and Kuwait. There are 16 studies from European countries: five papers from the UK, two papers from Romania, two papers from Spain, and one study from Germany, Scandinavia, Italy, Finland, Belgium, Cyprus, and Portugal respectively. The SNS field also concerns North American countries. Twelve papers were produced in the United States. Only one study concerned South America, specifically Brazil. Nine studies combined different geographical areas. Finally, only one study concerned each of the following countries: Malawi, Australia, and New Zealand. SNS research is increasing internationally (Xheneti and Blackburn, 2010). However, only two studies conducted in two Arab countries were found (Oman and Kuwait). This could be due to a significant proportion of these countries being subject to serious SNS use restrictions. Mourtada and Salem (2012) conducted a statistical study concerning SNS use in Arab countries. They found a significant percentage of respondents that declared their fear of expressing their social and political opinions on the Net.

5.4 Main Theories

Although many study results have been published in the SNS field, few efforts have been deployed to test or build new theories (Kwak and Lee, 2011). The current investigation showed that theory test was relatively rare (Kim and Weaver, 2002). Figure 2 shows that only 35 out of a total of 100 SNS papers specify theories used.
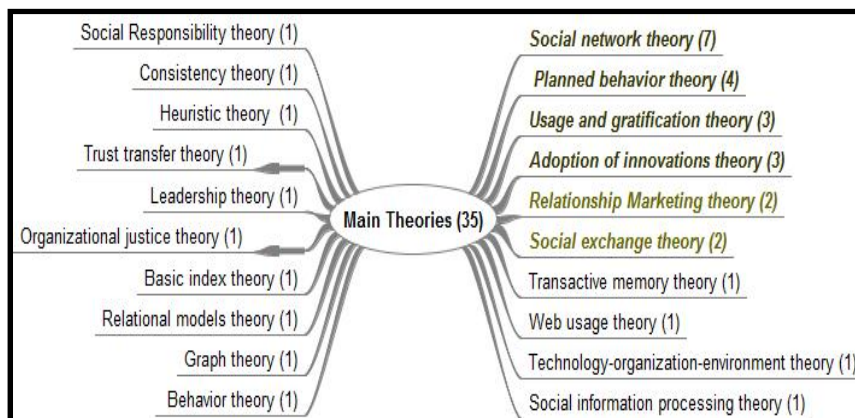
Figure 2: List of related theories applied in SNS literature

Seven papers apply social network theory, four papers use planned behavior theory, three papers opt for use and gratification theory, and three use adoption of innovation theory.
Table 3 assigns the theories used to associated themes.

Table 3: Main theories associated to each research theme

Themes	Related theories	Themes	Related theories
Motivations of use	Planned behavior theory (Fishbein & Ajzen 1975) Social network theory (Aldrich, et al. 1987) U & G theory (Kent & Taylor 1998) Web usage theory (Cotte, et al. 2006)	Brand	Social exchange theory (Blau 1964) Social network theory (Aldrich, et al. 1987) Adoption of innovations (Hult 1998) Technology-organization-environment (Jeyaraj, et al. 2006)
Pre-selection	Social responsibility theory (Jamali, 2008)	Customer engagement	U & G theory (Kent & Taylor 1998)
Selection	Organizational justice theory (Greenberg 1987) Social network theory (Aldrich, et al. 1987) Heuristic theory (Lind 2001) Behavior theory (Parry & Wilson 2009)	Trust	Basic index theory (Olson & Jacoby 1972) Planned behavior theory (Fishbein & Ajzen 1975) Consistency theory (Maheswaran & Chaiken 1991) Trust transfer theory (Hair 2011)
Sharing information	Social network theory (Aldrich, et al. 1987) Transactive memory theory (Wenger 1985)		
Productivity	Social network theory (Aldrich, et al. 1987)	Influence	Social network theory (Aldrich, et al. 1987)
Operational Marketing	Relational models theory (wang et al. 2002) Graph theory (Batagelj, et al. 2005)	Leadership	Leadership theory (Hersey & Blanchard 1969)
Communication	Planned behavior theory (Fishbein & Ajzen 1975) Social information processing theory (Walther 1992) Relational models theory (Fiske 1992)	Performance	Social exchange theory (Blau 1964)
Advertising	U & G theory (Kent & Taylor 1998)	Innovation	Relational models theory (Fiske 1992) Adoption of innovations (Hult 1998)

There is also a lack of theory testing and theory-building effort associated with SNS (Kwak and Lee, 2011). All the themes mentioned in the table above are studied using theories borrowed from other fields. For example, the theme "motivations of users" is explained by using planned behavior theory, social network theory, usage and gratification theory, and web usage theory. Moreover, the "information sharing" theme involves theories such as social network theory and transactive memory theory. In fact, the domain of SNS is relatively new, and does not possess its own theories. This represents an interesting research issue that may procure theoretical support for the SNS field (Kwak and Lee, 2011).

5.5   Future Research Directions

Unexplored theme areas have been deduced from Figure 1. They represent an extension of the missing themes from the thematic areas initially found. For each thematic area, the related themes have been determined, and the basic literature related to each thematic area consulted, in order to identify the main themes possible. Figure 3 below shows an overview of SNS studies with the themes not yet treated in the literature.

Some branches of management sciences have been treated, such as marketing, human resources management, and knowledge management. However, studies do not cover their dominant themes. For example, in marketing orientation, the impact of SNS on the product is not fully studied. It is important to analyze this impact on the remaining two P's, "place" and "price". Similarly for "communication," studies have not yet focused on communication tools such as direct marketing, sales promotion, and sales force. In fact, SNS have recently begun to change the state of business marketing (Hanafizadeh, et al., 2012). For human resources management, this review found studies related to the effect of SNS on the recruitment process. Future research could rectify the literature's big silence related to the impact of these network sites on "training," "skills management," and "career management".
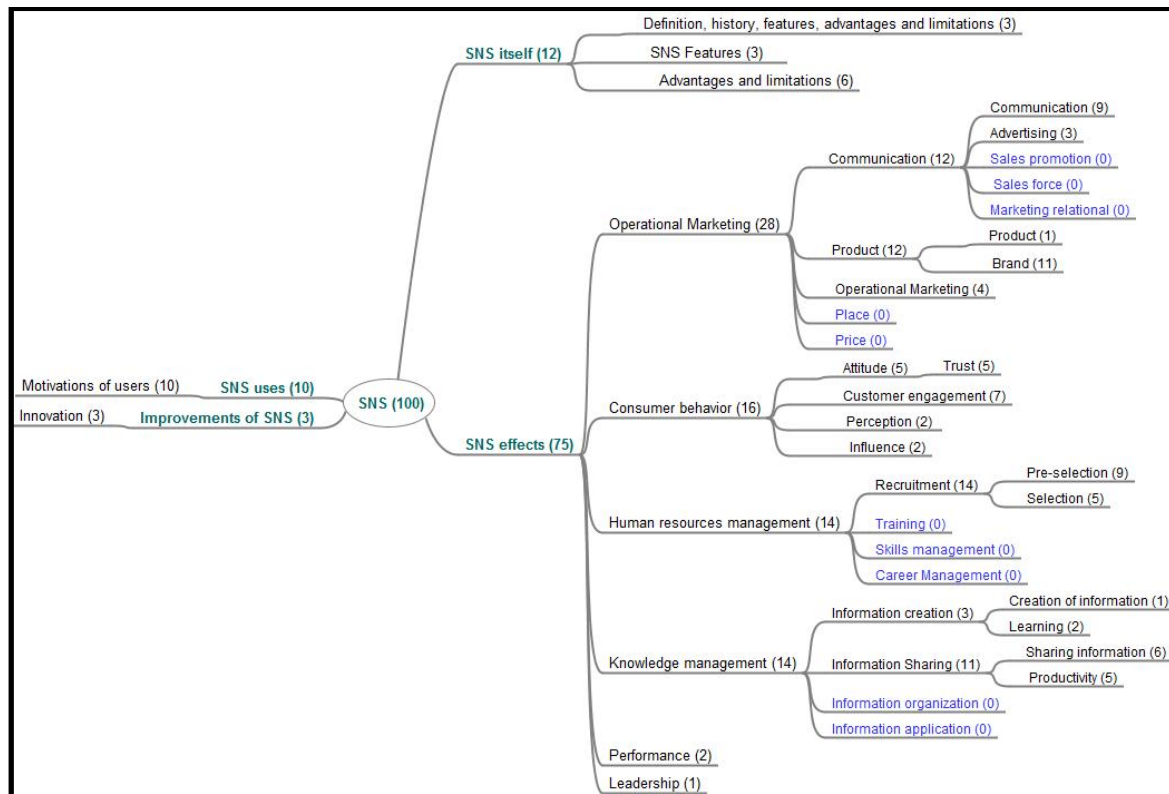
Figure 3: Thematic map of the SNS field including unexplored themes: 2009-2014

Girard et al. (2013) argue that use of these new practices has been neglected in the context of human resources management. In addition, future research should look into SNS impact on knowledge management with respect to the stages of "information organization" and "information application". SNS impact on knowledge management raises several questions to study (Wehner, et al., 2016). In addition to these unexplored themes, others were poorly treated and deserve more attention from researchers, such as, "leadership" (one paper) and "performance" (two papers). Other branches of management sciences were also omitted by researchers, including strategy, organization, and hierarchy.

6. Discussion of results

The findings here indicate that SNS studies cover all phases of the NMEM model (Kim and Weaver, 2002; Kwak and Lee, 2011). The first phase and the third phase began in 2009. This phase overlap challenges the evolutionary logic proposed by Wimmer and Dominick (2000), who argue that if a phase is over, it is not recovered again. The current literature review found that SNS research is not linear and cumulative.

The first phase appeared in 2009. It provides not only definitions and features of SNS (Kwak and Lee, 2011), but also studies dealing with advantages and limitations of SNS. The second phase appeared in 2011 and deals with the motivation of use. According to the current literature review, and consistent with Kwak and Lee (2011), SNS are used to maintain existing relationships, request necessary information, and share information and communication with others. The third phase appeared in 2009 and concerns SNS impact on "operational marketing," "consumer behavior", "human resources management", "knowledge management", "performance", and "leadership". These results prove that SNS research evolution does not follow a process as presented by the NMEM model. Finally, the last phase of the NMEM was identified in 2012. It examines the importance of SNS in this environment, characterized by technological development. Since the SNS field is still in an early stage, research in this area is limited (Kwak and Lee, 2011).

In this literature review, the business context was chosen to provide a state of the art on SNS research in the management sciences area. The model of Wimmer and Dominick (2000) is general because it studies the effects of new media on users and society. This review attempts to be methodical, considering categories of themes specific to management sciences. This specificity of the research allows deepened themes mapping.

This research also examined methodologies used in SNS literature. Quantitative research (45 papers) outnumbered qualitative research (25 papers). Similar to findings by Zhang and Leung (2014), the survey was the most frequently used technique (33 studies). Zhang and Leung (2014) found that 54.8% of papers opted for the survey tool.

Concerning the geographical distribution of SNS research, a large portion of published papers on SNS belongs to developed countries (Ravasan, et al., 2014). There is a tremendous difference between the number of publications from the United States (12) and those from other countries. Great research potential lies in studying social network opportunities and impacts in less developed countries (Ravasan, et al., 2014). The current results are similar to Zhang and Leung (2014) and Ravasan, et al. (2014), in their finding that the United States is the leader and pioneer in the SNS research field.

Finally, the current study found that 35 papers mentioned using theories. Among them, seven papers applied social network theory, four papers used planned behavior theory, three papers opted for use and gratification theory, and three papers used adoption of innovation theory. Kwak and Lee (2011) found that U & G theory and social capital theory are often used in SNS research.

7. Conclusion

Although SNS are becoming increasingly popular around the world over the last few years, many research questions have not yet been investigated. The current research analyzes the structure of SNS research. SNS literature was based on diverse perspectives, research questions, and methods. Consequently, producing a coherent framework that synthesizes the domain research's body is recommended (Wilson, et al., 2012). This review first discusses the definitions of SNS, and then summarizes thematic patterns of recent SNS research in management sciences and the methodological preferences. This review is not definitive nor intended to be. Rather, it attempts to interpret research in SNS from 2009 through 2014, reviewing 100 articles described and labeled by a thematic analysis to 22 first-order themes, by using NVivo10 software. The structure of the SNS domain is built upward from first-order themes to thematic areas. Finally, four major axes of research (representing the four phases of the NMEM model) labeled SNS itself, SNS uses, SNS effects, and improvement of SNS, are identified.

The main contribution of this paper is to build a mapping of the SNS research. Doing so offers a reliable, constructed, practical, and useful resource, concluding that the SNS domain is structured according to several coherent thematic areas, and is rich in potential for future research. This review proposes to provide a source for anyone interested in discovering research trends in SNS literature.

This study also makes a methodological contribution by providing a fully documented and replicable methodology, so that the ongoing development of knowledge in SNS may be more easily captured and retained. For that purpose, the authors developed a methodological protocol for the search, selection, and exclusion of literature, and for its thematic analysis (Jones, et al., 2011).
This research has some limitations. Six years' horizon represents a limited period to analyze the evolution of SNS research themes. As a result, future studies should cover a more extended period of time, and include more electronic databases, such as ProQuest.

In addition, this investigation of SNS studies focuses on two SNS types (Facebook and MySpace). Twitter and Instagram, which have significant effects on individual lives, also warrant investigation.

Finally, themes in the classification framework were identified based on 100 papers. The limited size of the sample was mainly due to exclusion of other search sources, such as books and theses (Jones, et al., 2011). With the increasing number of articles in this area, more themes should be added and updated in the classification framework (Ravasan, et al., 2014).

The authors also recommend conducting further investigations relative to the unexplored themes. These themes were poorly treated and deserve more attention from researchers—for example, investigating the relationship between the use of SNS and leadership, performance, and innovation.

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